

Fig.1A

RING CONNECTION NETWORK
TE (LEFT & RIGHT)

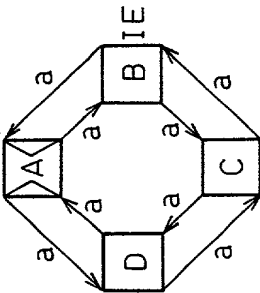


Fig.1B

LINEAR CONNECTION NETWORK

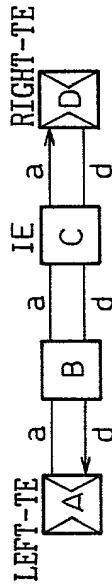


Fig.1C

STRUCTURE OF LOGICAL COMMUNICATION
PATH IN RING CONNECTION NETWORK

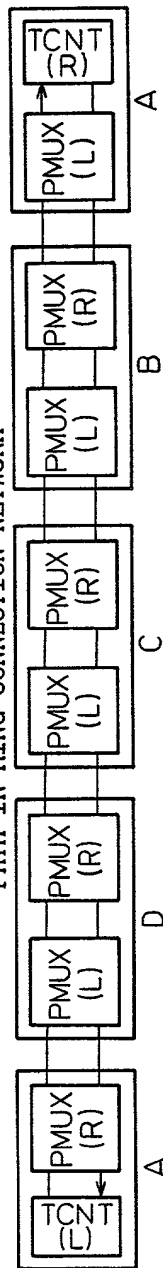


Fig.1D

STRUCTURE OF LOGICAL COMMUNICATION
PATH IN LINEAR CONNECTION NETWORK

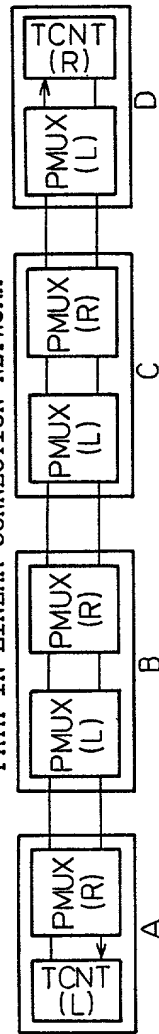


Fig.2A

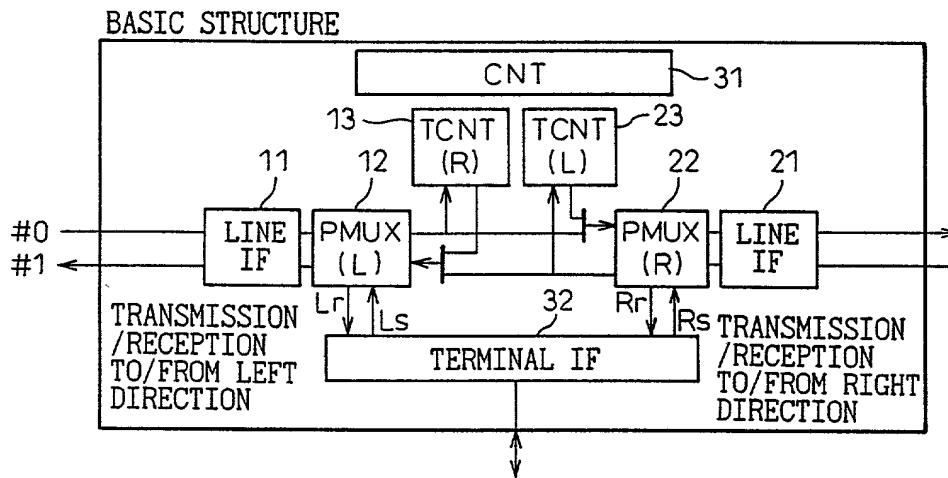


Fig.2B

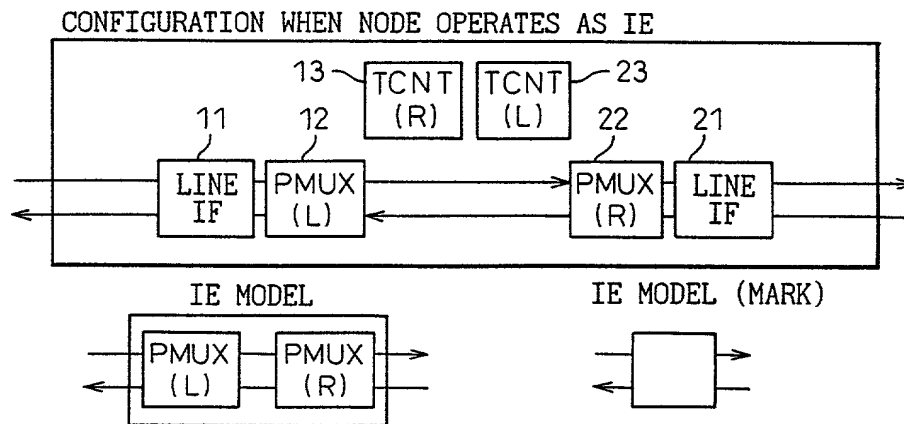


Fig.2C

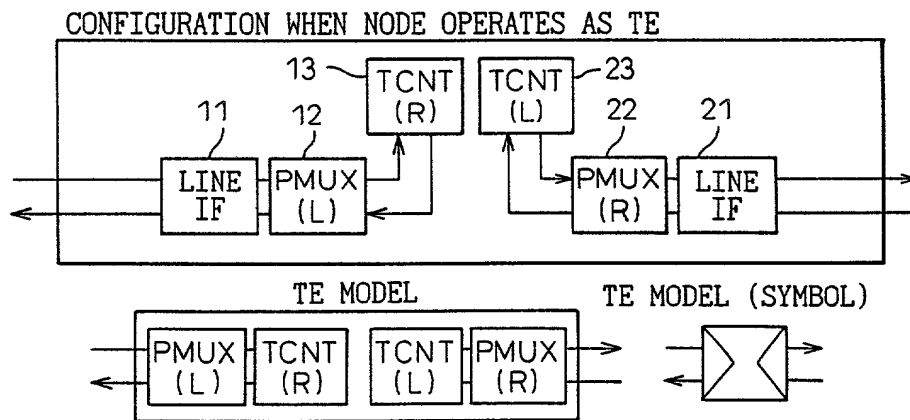


Fig.3A

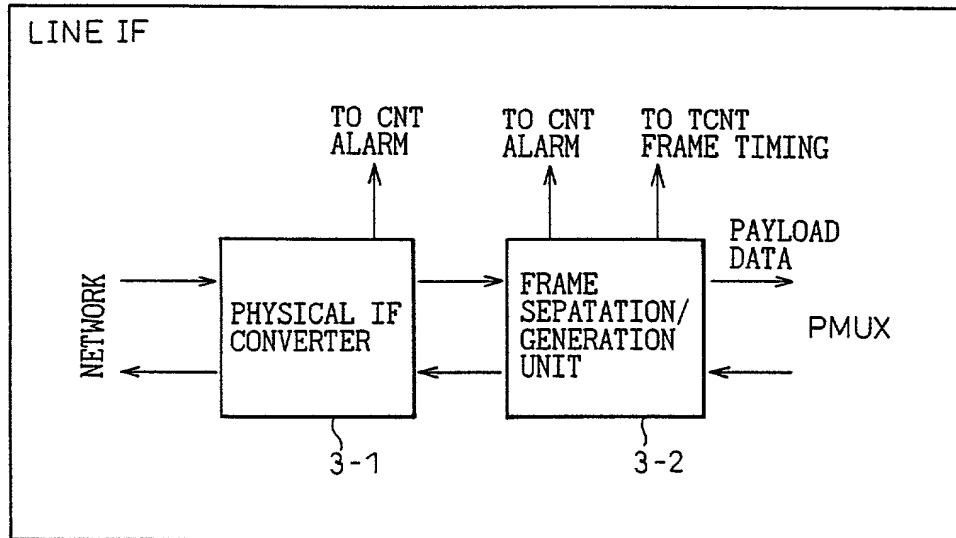


Fig.3B

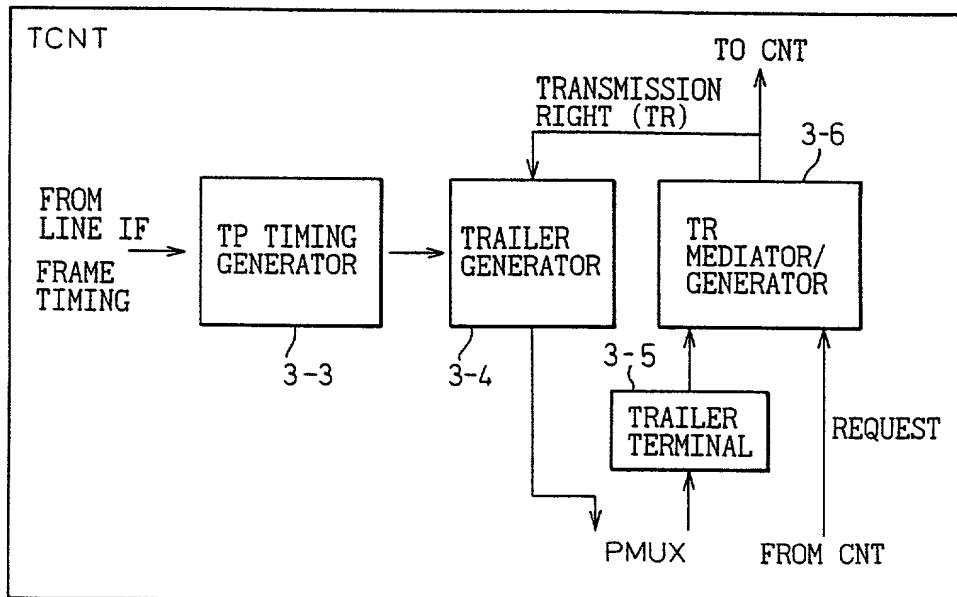


Fig. 4

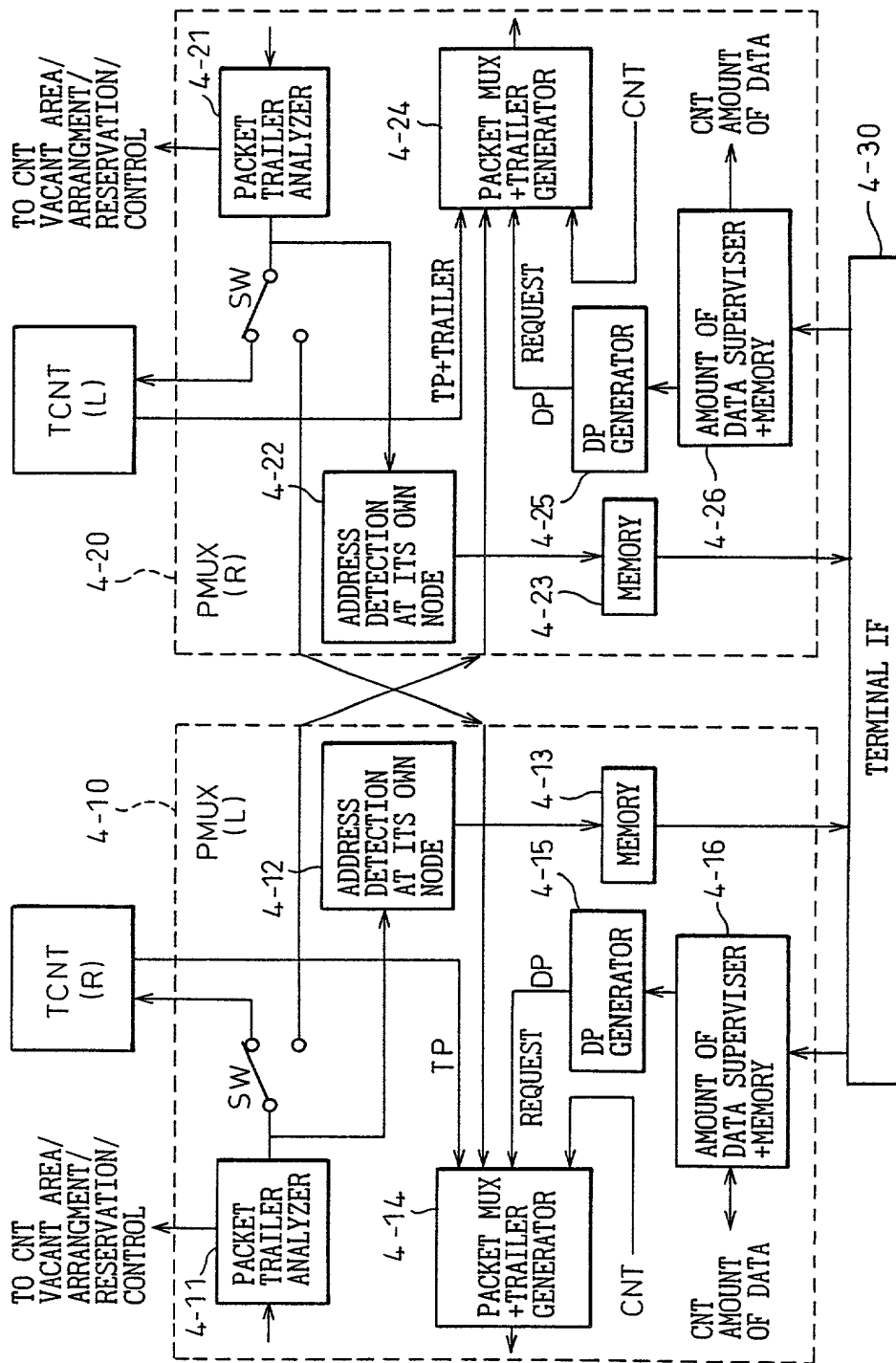


Fig.5

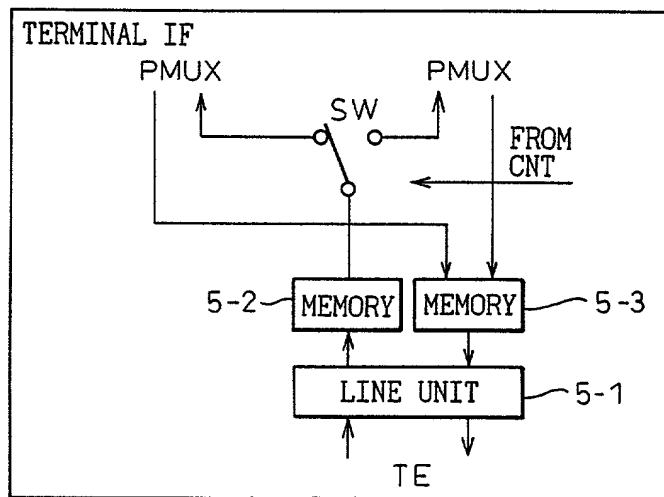


Fig. 6A

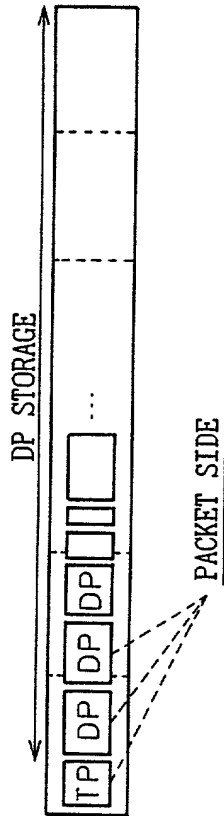


Fig. 6B

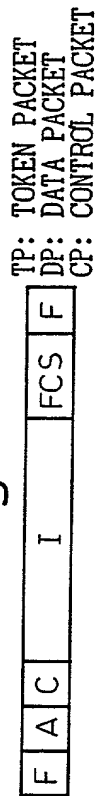


Fig. 6C

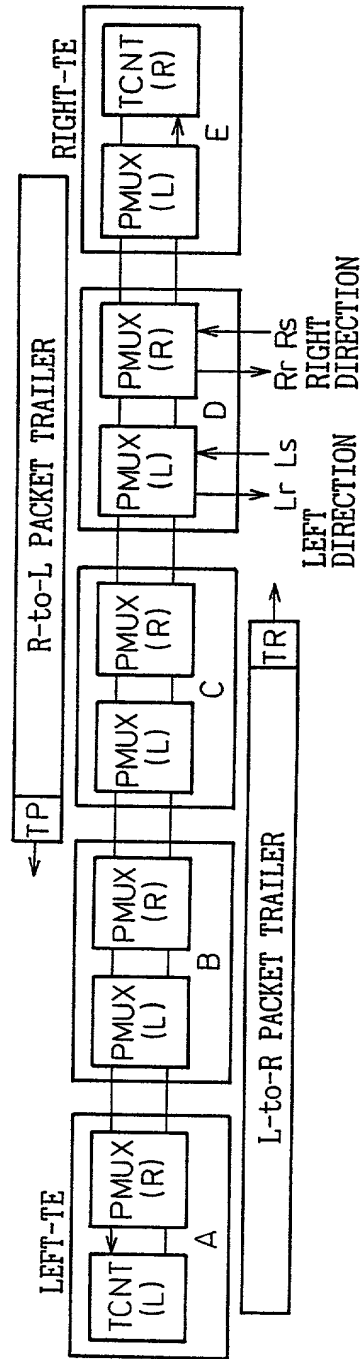
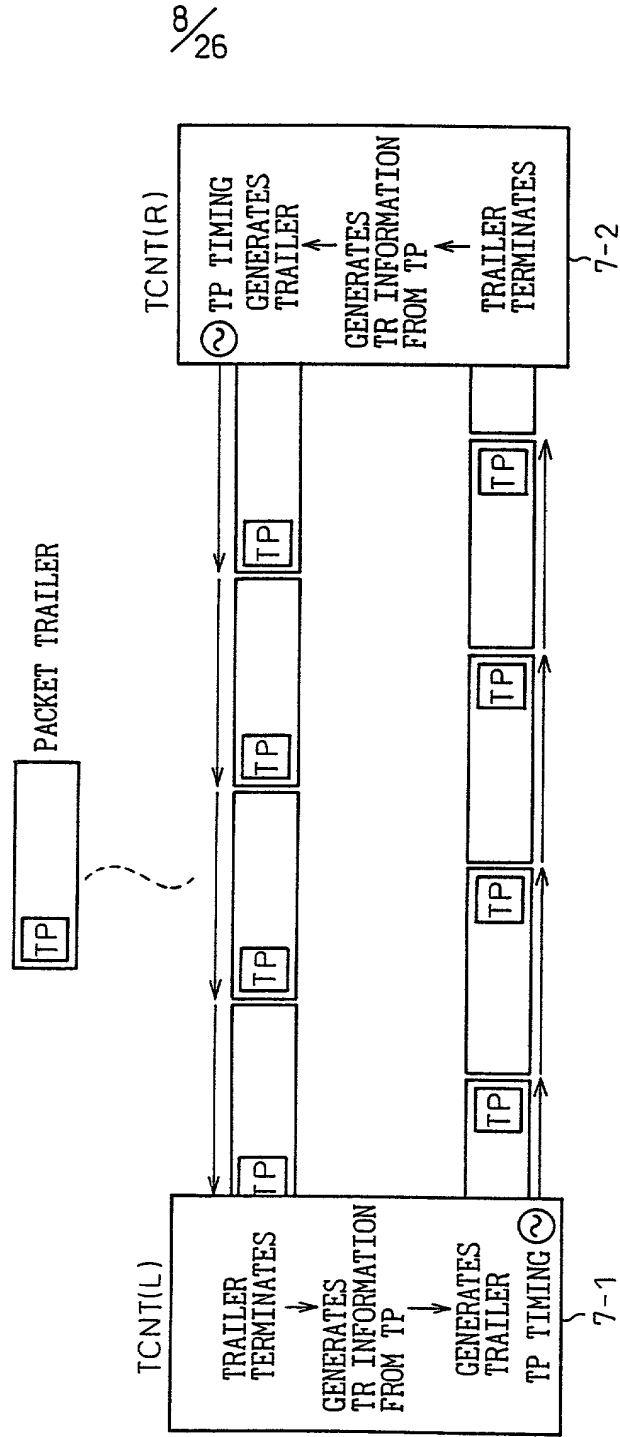
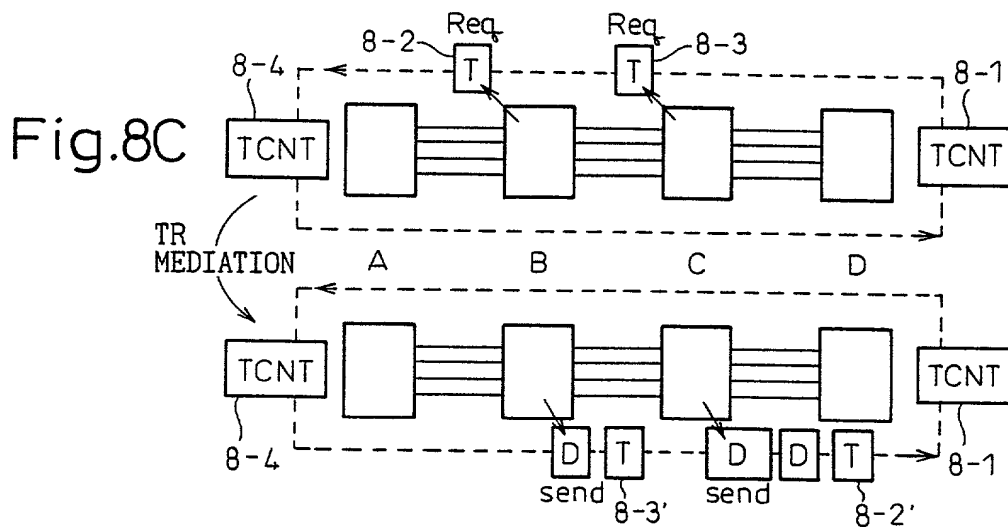
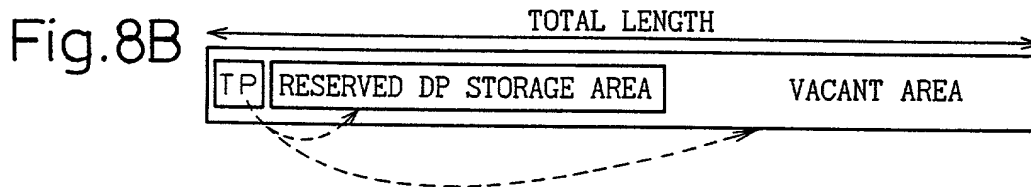
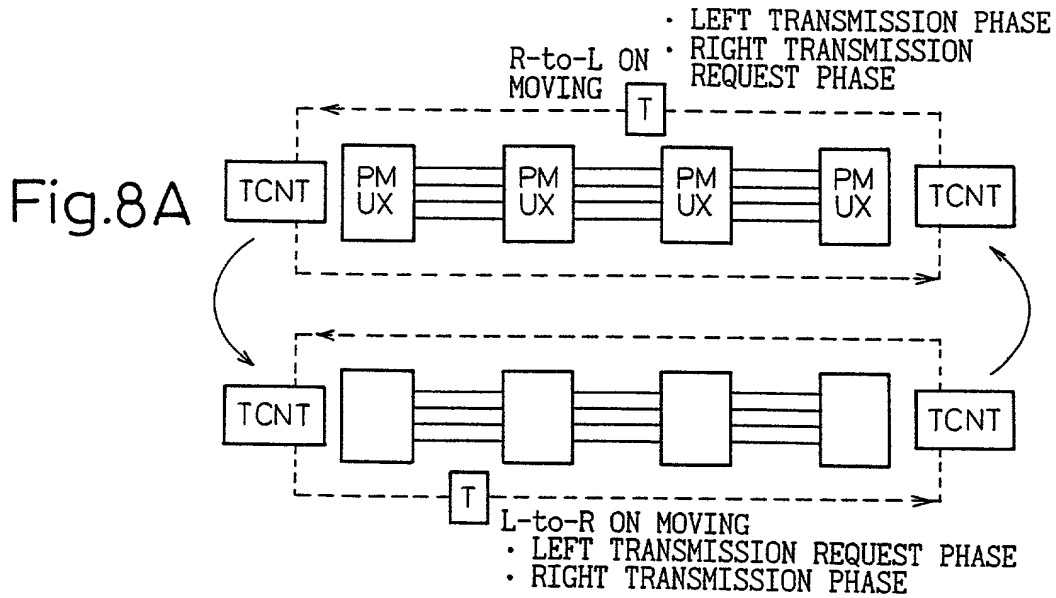


Fig. 7



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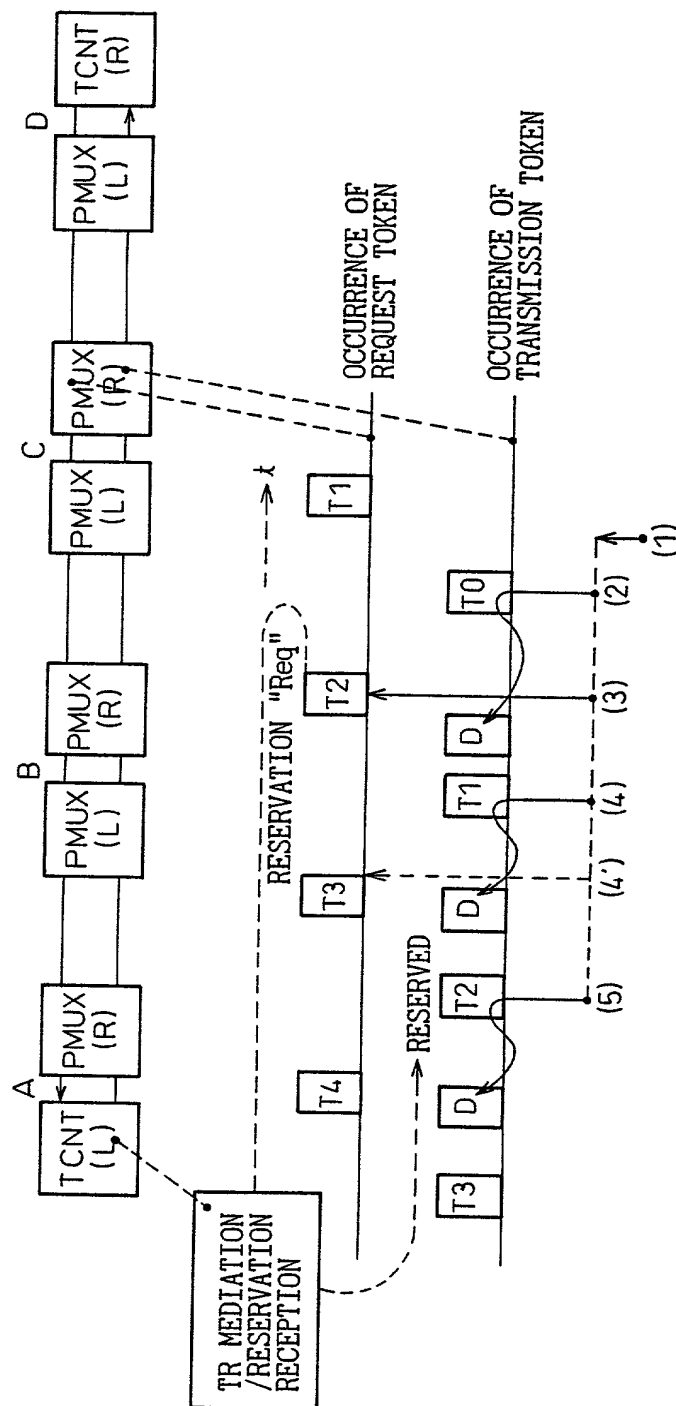
[illegible]

Fig.11

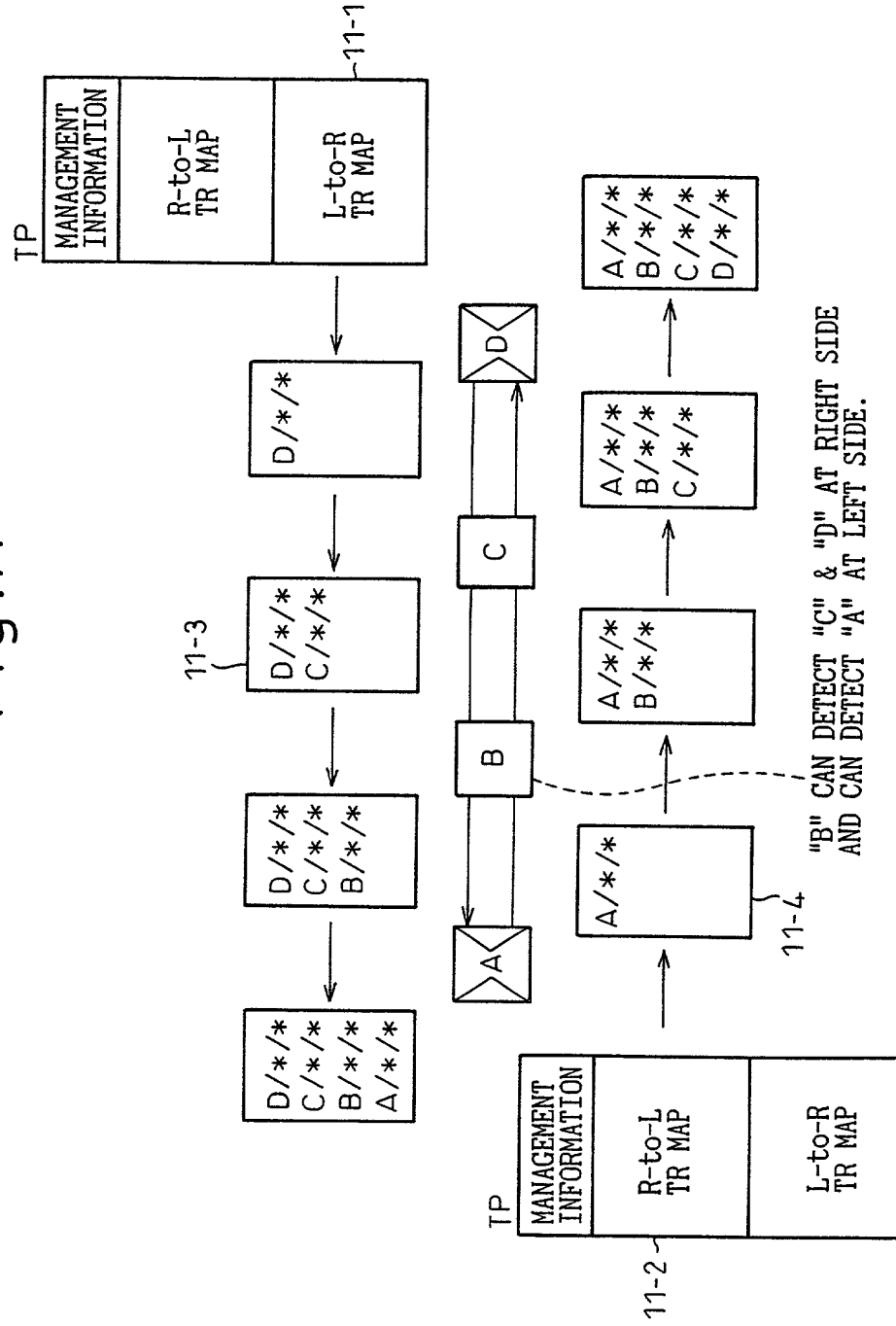


Fig.12

| In=#0 In=#1 | DATA FRAME HAS NOT ARRIVED | "MASTER-INFORMING" OF MASTER NODE "m" HAS ARRIVED | "MASTER-INFORMING" AND "MASTER-INVITING" OF MASTER NODE "m" HAVE ARRIVED |
|---|---|---|---|
| | | | |
| DATA FRAME HAS NOT ARRIVED | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" AND "MASTER-INVITING" TO LINES (#0,#1) (RAS-r1,RAS-r4) | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" AND "MASTER-INVITING" TO LINE (#0) (RAS-r1,RAS-r4) | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" AND "MASTER-INVITING" TO LINE (#0) (RAS-r1,RAS-r4) |
| "MASTER-INFORMING" OF MASTER NODE "n" HAS ARRIVED | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" AND "MASTER-INVITING" TO LINE (#1) (RAS-r1,RAS-r4) | if $m=n \leq$ address of its own node then, node is changed to master, and transmits "master-informing" (RAS-r3) if $m=n >$ address of its own node then, node is changed to slave (RAS-r3) if $m \neq n$ then, node is changed to slave (RAS-r2) | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" (RAS-r5,RAS-r7) |
| "MASTER-INFORMING" AND "MASTER-INVITING" OF MASTER NODE "n" HAVE ARRIVED | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" AND "MASTER-INVITING" TO LINE (#1) (RAS-r1,RAS-r4) | NODE IS CHANGED TO "MASTER" AND TRANSMITS "MASTER-INFORMING" (RAS-r5,RAS-r7) | NODE IS CHANGED TO "SLAVE" (RAS-r6) |

Fig.14A

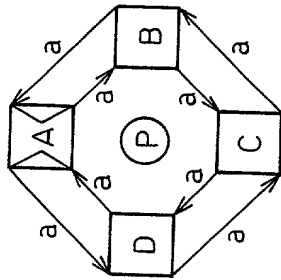
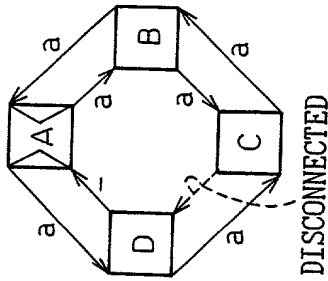


Fig.14B



DISCONNECTED

Fig.14C

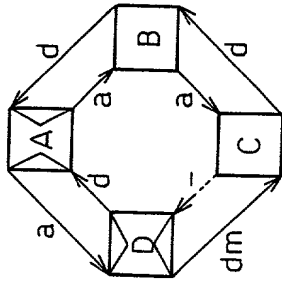


Fig.14D

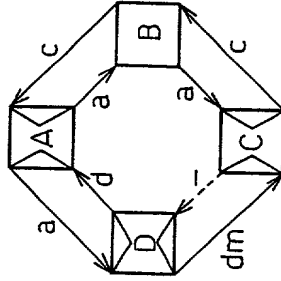


Fig.14E

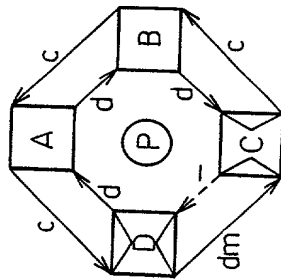
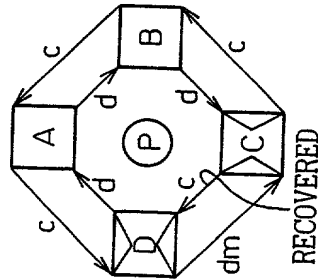


Fig.14F



RECOVERED

Fig.14G

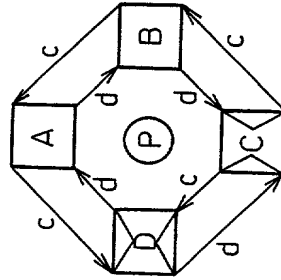


Fig.14H

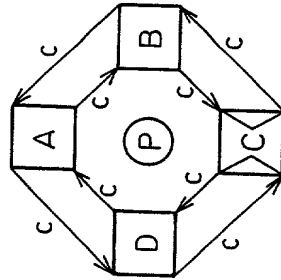


Fig.15A

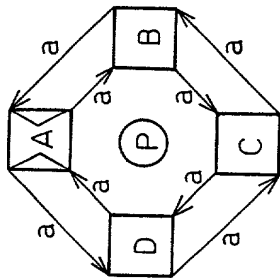


Fig.15B

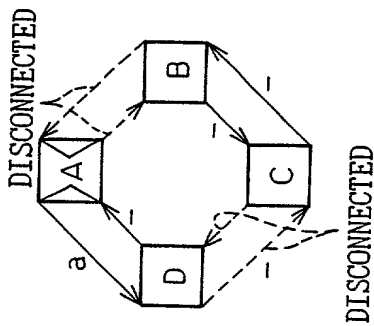


Fig.15C

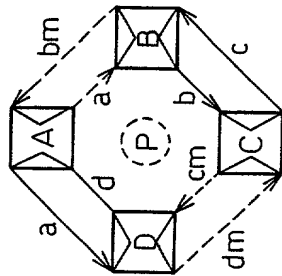


Fig.15D

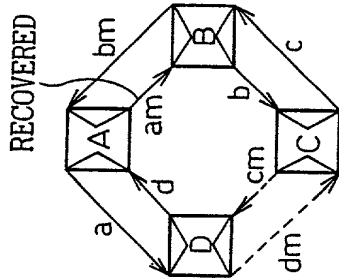


Fig.15E

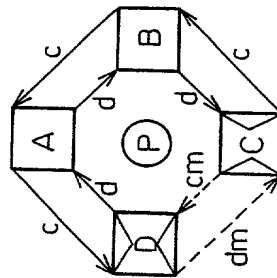


Fig.16A

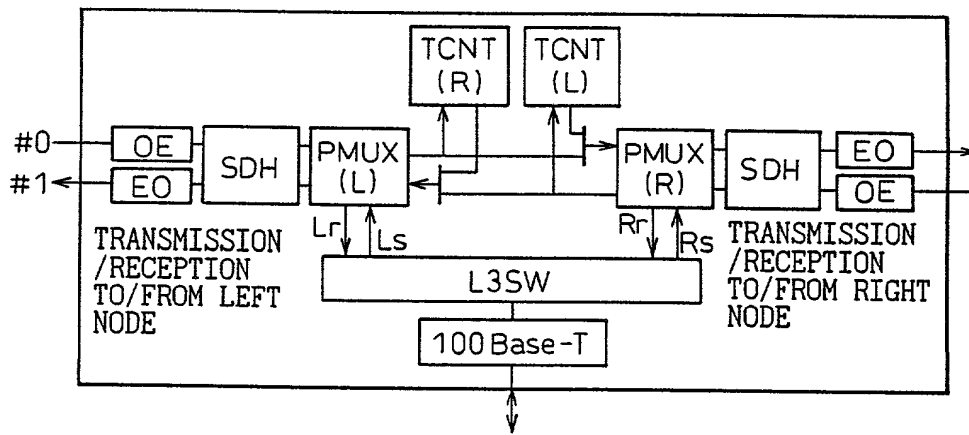


Fig.16B

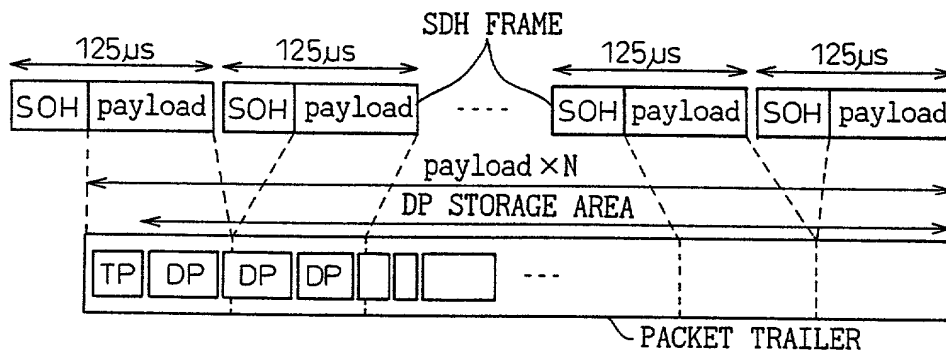


Fig.16C

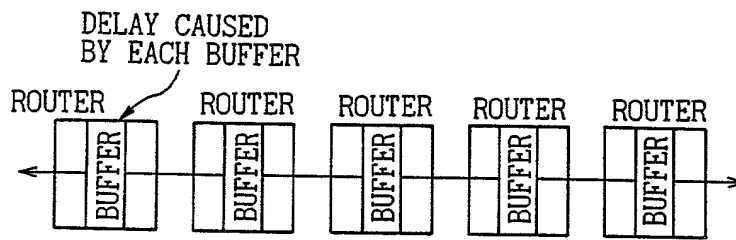


Fig.16D

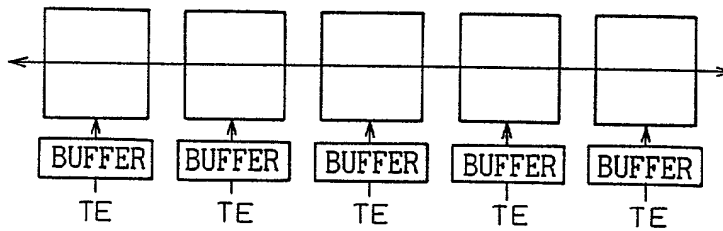


Fig.17A

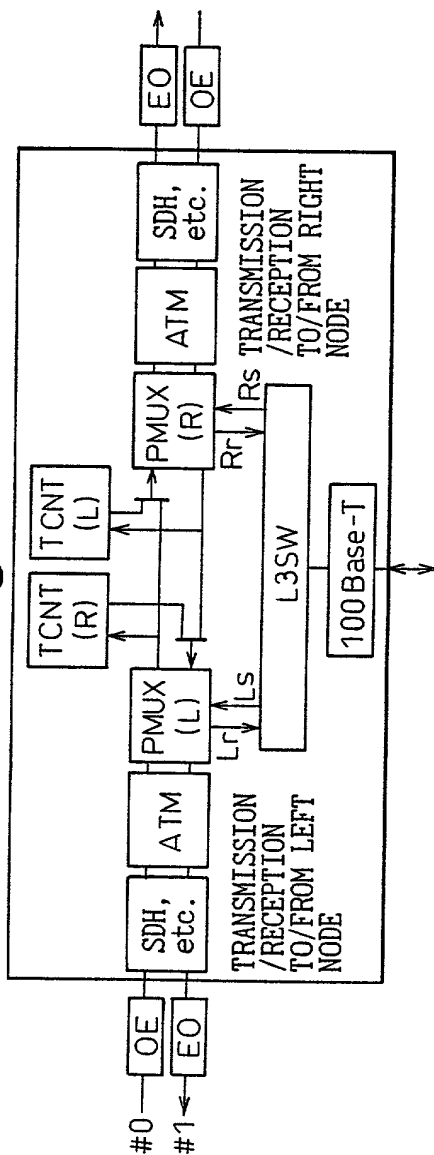


Fig.17B

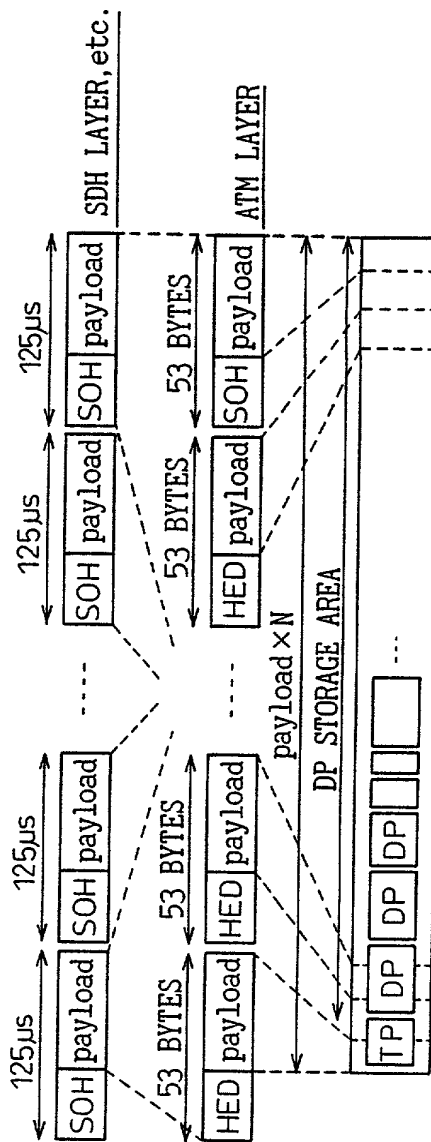


Fig.18A

PRIOR ART

THE SAME DATA IS DELIVERED
ON LINES #0 AND #1, AND
SELECTED AT RECEPTION SIDE

- COMMUNICATES
ON ONE LINE
- THE OTHER LINE
IS NOT USED

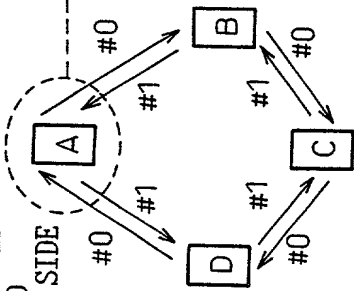


Fig.18B

PRIOR ART

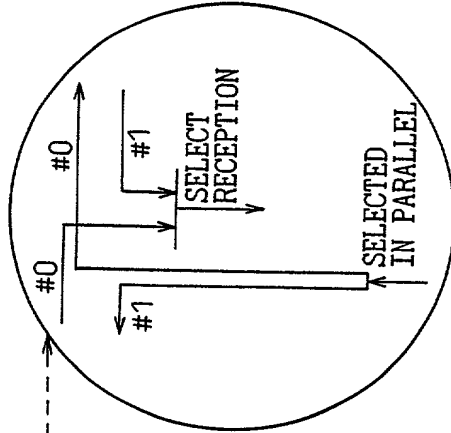


Fig.18C

PRIOR ART

IN THE CASE OF DATA BEING
TRANSMITTED FROM NODE
"C" TO "A"

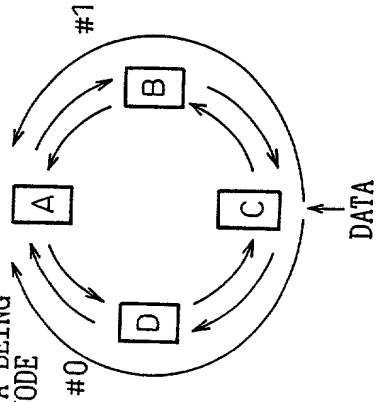


Fig.19A
PRIOR ART

LOOP-BACK CONNECTION
AT ABNORMAL STATE

USUALLY,
COMMUNICATED BY
ONLY LINE #0

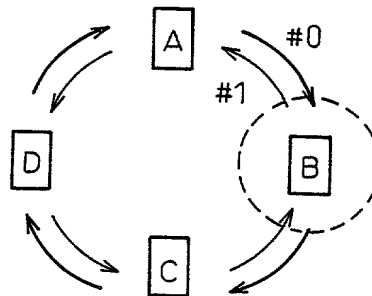
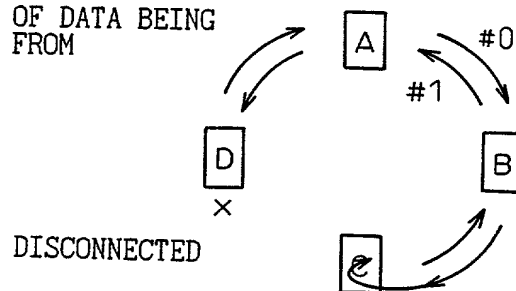


Fig.19B
PRIOR ART

IN THE CASE OF DATA BEING
TRANSMITTED FROM
"C" TO "A"



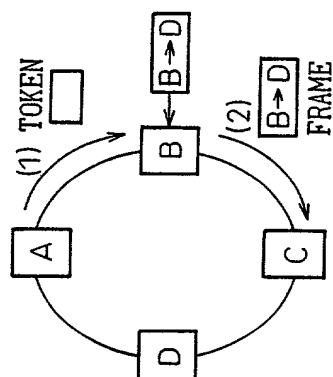
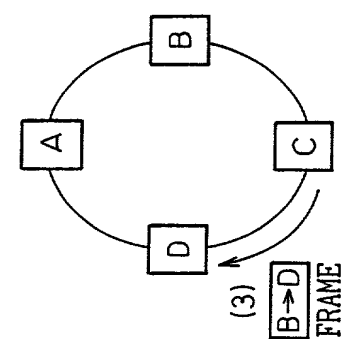


Fig. 21A

PRIOR ART

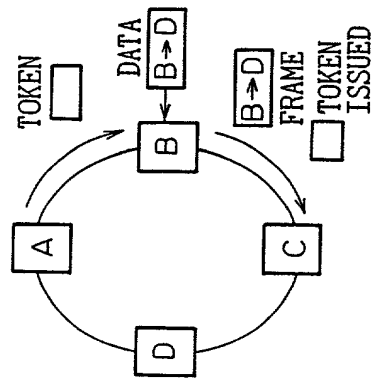


Fig. 21B

PRIOR ART

PRIOR ART

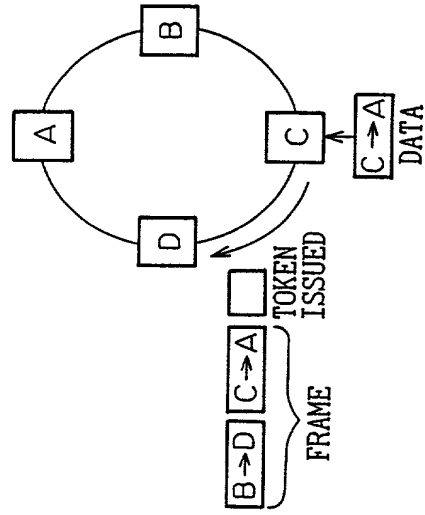


Fig. 21C

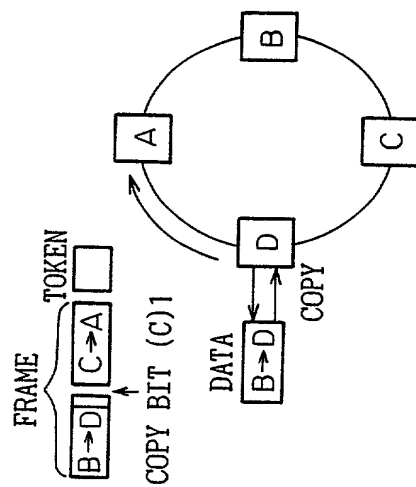


Fig. 21D

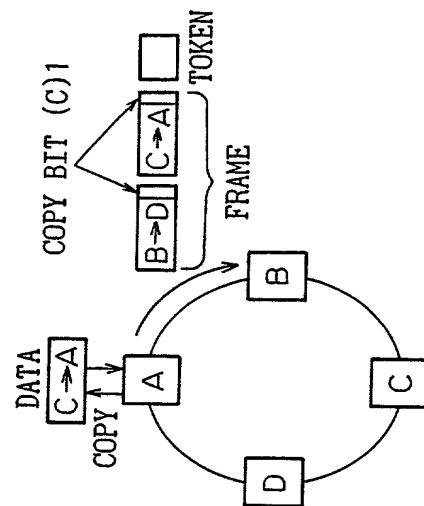


Diagram illustrating the operation of the CSMA/CD protocol. A circular network topology with four stations (A, B, C, D) is shown. Station B has just transmitted a frame (B → D). Station C is about to transmit a frame (C → A). The diagram shows the collision point where the two frames meet. Labels indicate 'COPY BIT (C)1' and 'FRAME ABANDONED' for both stations, indicating a collision. A 'TOKEN' is shown entering the network from the left.